

Winter 2011



The Quarterly Hail

National Weather Service - Hastings, Nebraska

Volume 1,
Issue 4

Notes From the Meteorologist In Charge - *Steve Eddy*

As I sit in my office, I look over the harvested fields and recall the geese have already flown south for the winter. It is the time of year to reflect upon the events of this last year and look ahead to what we hope to accomplish in 2012.

We lost two co-workers this year, reminding us of how fragile and wonderful life is and how much each of us is a gift to the community. In their place, we have already experienced new growth in new employees and the prospective and new energy they bring to the positions they fill.

On December 5th, our newest employee arrived from Williston, ND. His name is Philip (Phil) Beda. He will begin to attempt to fill Larry Wirth's position as Hydro Meteorological Technician (HMT). We have high hopes for Phil and he and his family are very excited to move to Hastings. Cooperative Observers will be seeing a lot of him as he learns the ropes of this program. We are proud to tell you that Phil is currently serving in the Air Guard as a Weather Forecaster/Meteorologist, so he is doing double duty to serve our great nation.

Weather-wise, it was a relatively "slow or uneventful" weather year for much of our area. However, we still do live in Nebraska or Kansas so you know there will always be some kind of weather to talk about. One exciting weather day that comes to mind immediately is June 20th, when we had multiple tornadoes across our area and a few simultaneously on the ground. Otherwise, we had a few other severe weather events, but thankfully, they were very localized and did not produce widespread damage. Winter was mild and I remember a few snow storms, but nothing major. I guess we can be thankful that we did not have a major blizzard. The record Missouri River basin flooding was the other big event that comes to mind in 2011.

We give thanks for you, our partners. Without you, we could not do our job. We are thankful for having jobs, servant's hearts, health, our friends and families, living in the best nation in the world, and those other gifts that are too numerous to mention.

Looking forward, our goal is to steadfastly serve the people in our area with diligence and prudence. Our agency is not exempt from tough economic times and we are exploring ways to continue to do more with fewer resources. So, we have a lot of challenges ahead, but I am confident with your assistance we will continue to provide the U.S. citizens the best possible products and services.

Happy Holidays!



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Special Points of Interest:

- Read about a record breaking May!
- We say Hello and Good-Bye to a few Cooperative Observers.
- How do you determine what type of precipitation will fall to the ground?
- What is the outlook for this winter season?

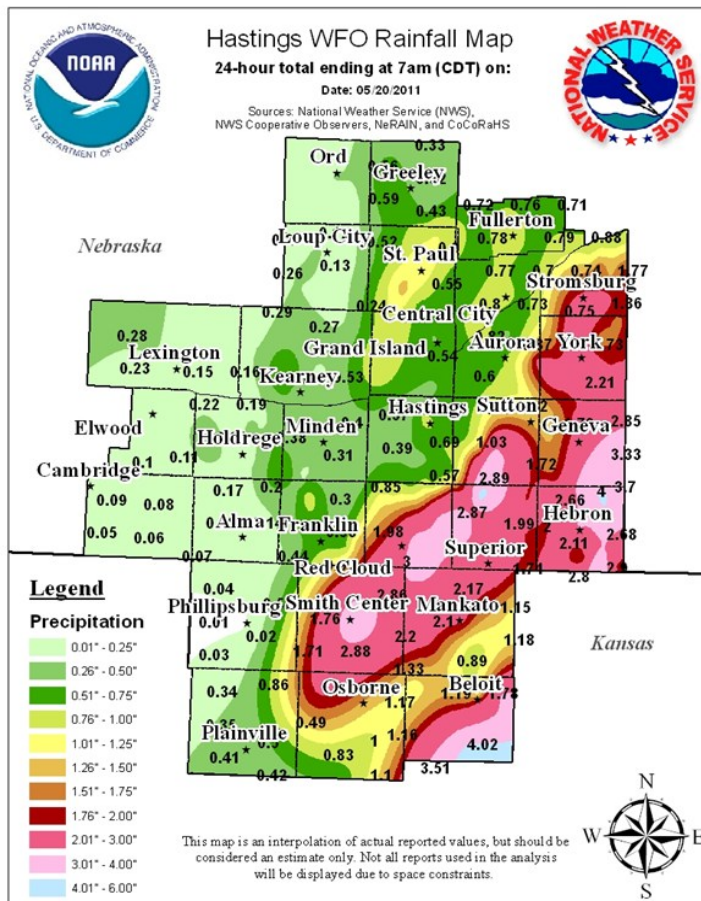
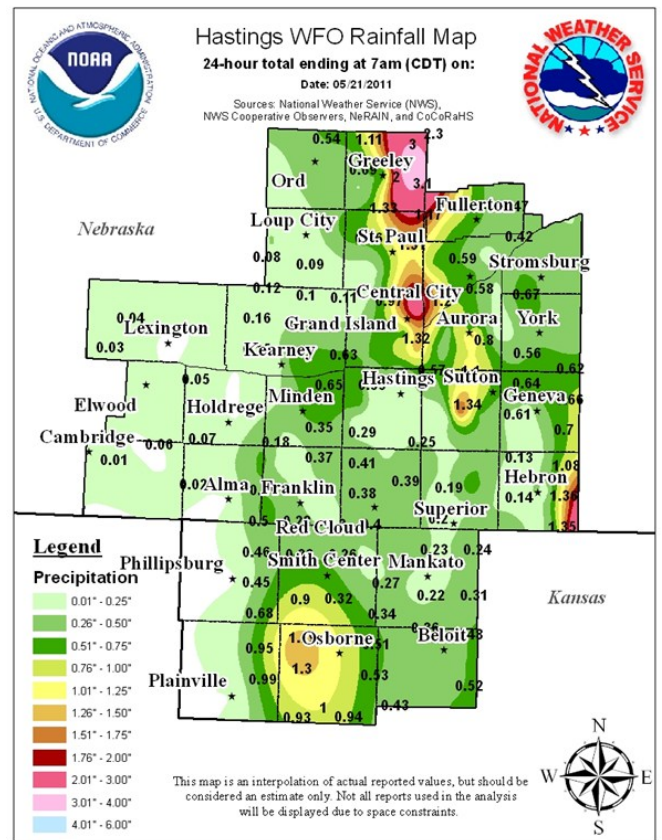
Just GIS - Joe Guerrero, Meteorological Intern

As we move into the winter season, it becomes easy to forget about the spring and summer months when heavy rainfall, flooding, thunderstorms and tornadoes rummaged through the region. Using GIS, we can plot a map of precipitation that has fallen over a given time period.

One could reflect back on the month of May, which was the wettest month of 2011 for the Hastings CWA.

A couple of days stand out the most during this torrential rainfall month and those two days are the 19th & 20th of May 2011. Grand Island set a record on the 20th of May, when it recorded 2.46" of rain at the Central Nebraska Regional Airport. The previous record was 1.32" set back in 1957. For the entire month of May, Grand Island collected 8.70" of total precipitation, which was 4.63" above average. Overall, the month of May was the 7th-wettest on record out of 116 years of data for Grand Island.

Kearney also set a record for the 9th-wettest May, out of 117 years of record keeping. Keep in mind, our counterparts in Texas and New Mexico were in an exceptional drought during this time. The Tri-Cities combined for a total of 20.26" of rainfall during the



month of May 2011. To put that into perspective, locations in Fort Stockton and Midland in west Texas and both Carlsbad and Artesia in southeast New Mexico recorded less than 0.25" of total precipitation for the month of May.

Since we are moving into the winter months and hence snow, it's good to point out that there is a rough correlation to the amount of liquid equivalent precipitation and snowfall. The "average" snow to liquid ratio which meteorologists use is 10:1. In other words, if 10" of snowfall was observed, this would produce an average of 1" of liquid precipitation. Let's use the 19th of May as an example where Hastings recorded 1.25" of rainfall over a 24-hour period ending at 7am on the 20th. If this was a snow event, we could estimate that 12.5" of snowfall would have fallen using that average snow to liquid ratio. Keep in mind, this ratio is a rough estimate and other atmospheric conditions must be examined in order to get an accurate forecast. We will not go into detail here about the other variables but it's not nearly as easy as 10:1 for every snow event. The main variable is the temperature profile through the atmosphere, which plays a large role in determining the wetness or dryness of the snow.

Winter Weather Crossword Puzzle

Across

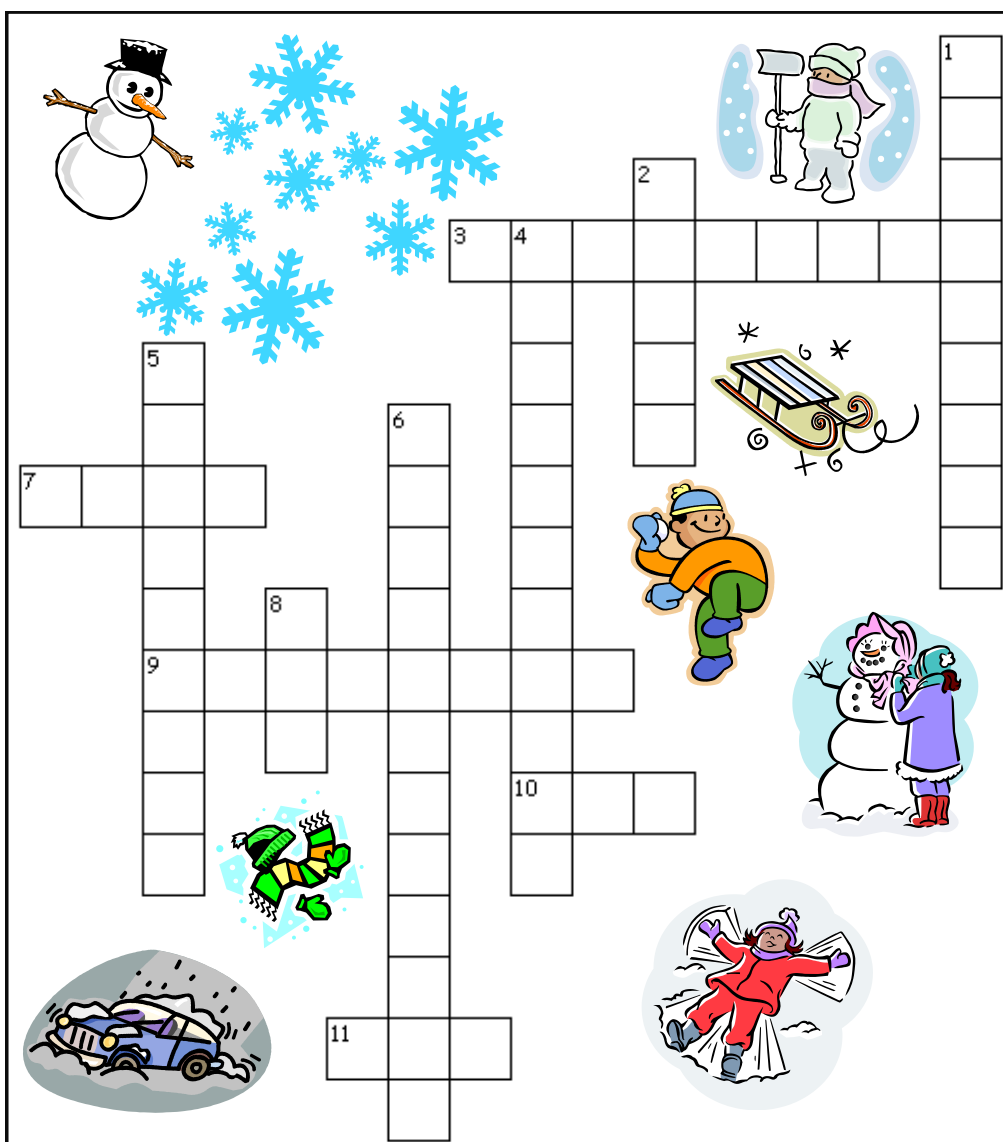
3 - Don't forget your animals! Be sure to move them to _____ areas.

7 - Resulting type of precipitation when the entire atmospheric column is below freezing.

9 - A _____ warning is issued when snow accompanied by winds equal to/greater than 35 mph and visibilities at/less than 1/4 of a mile are expected for at least 3 hours.

10 - Heavy _____ accumulations can bring down trees, utility poles and lines, and communication towers.

11 - Before winter strikes, be sure to put together a Winter Storm Survival _____.



Down

1 - Word describing how the combination of wind and cold temperatures feels on exposed skin.

2 - Precipitation in the form of tiny ice balls.

4 - Conditions when body extremities are excessively cold and the body's temperature drops below 95°F.

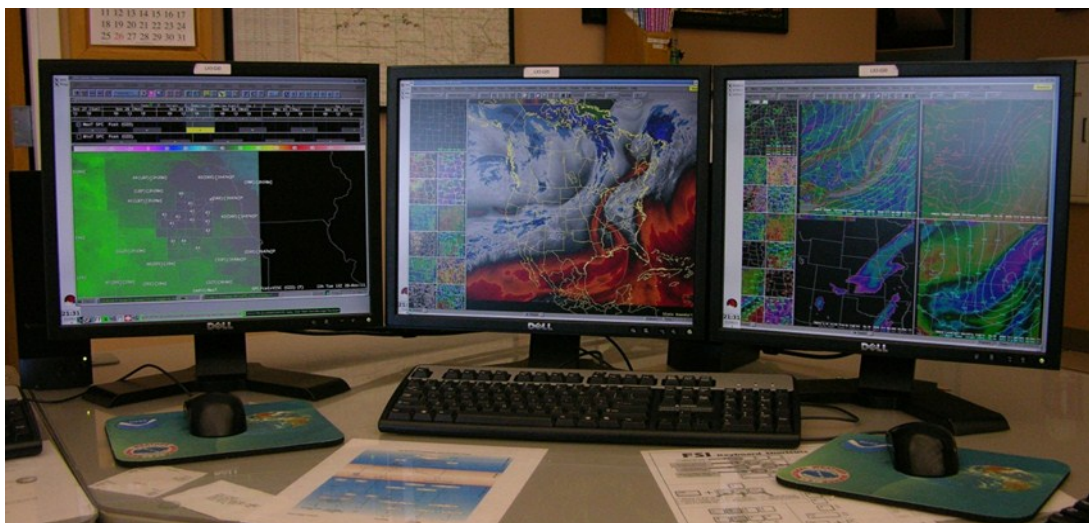
5 - Damage caused to body tissue by extreme cold.

6 - Type of precipitation resulting from snow falling through a warm layer, melting into liquid, then falling through another layer at/near the ground which is below freezing.

8 - A Winter Storm Warning is issued when _____ or more inches of snow is expected over a period of 12 hours.

AWIPS: A Forecaster's "Right-Hand Man" - Mike Moritz, WCM

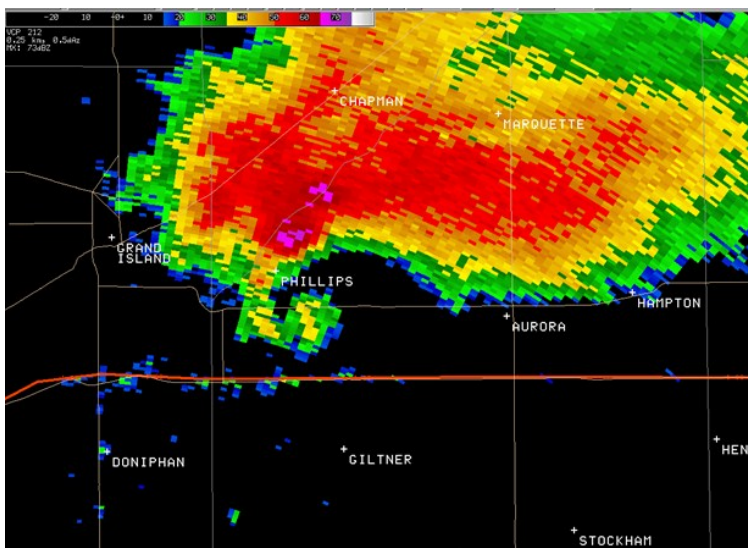
You may wonder just how the meteorologists at the NWS Hastings produce a forecast. Well, it's a much longer story than this space provides and can often vary from one forecaster to the next. However, there is one important constant to making a good forecast at every NWS office: The Advanced Weather Information Processing System or "AWIPS" for short.



A typical view of 3 or 4 screens of an AWIPS workstation on the "forecast desk." One nice feature is all three screens are "connected", at least in terms of being able to mouse back and forth from screen-to-screen and the use of individual programs.

AWIPS is the single most important technical tool used by the forecasters in the NWS. AWIPS provides the forecaster a look at nearly all available weather data in one computer system, including satellite, radar and weather forecast models out to 10 days in the future. AWIPS came to the NWS in the late 1990s and replaced 1970s technology. AWIPS remains one of the cornerstones of any NWS office. AWIPS consists of 3 graphical displays and one text screen display and is called a "workstation". All NWS offices have at least 4 to 6 workstations. Each workstation is designed to be just like its sibling, allowing the forecaster the leeway to work at any of the workstations in the office and not "miss a beat." When you team the data from AWIPS with an increasing amount of weather information from the web, and the judgment and experience of the meteorologists on station, analyzing and constructing a forecast has become a science in itself.

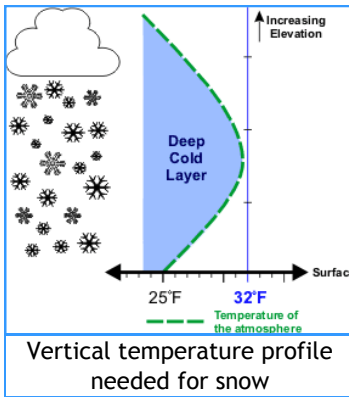
Since its introduction some 15 years ago, AWIPS has seen numerous upgrades and improvements. None will be bigger than its next phase called "AWIPS II". AWIPS II is a redesign of the "guts" of the system and is already in use at the NWS office in Omaha/Valley, NE. Once fully operational, AWIPS II will be more user friendly and be able to tap into the vast resources of the internet, allowing the forecaster to incorporate more information in the forecast process, ultimately benefitting everyone who may use the forecast information. There is no doubt, AWIPS and its soon-to-be-released cousin, AWIPS II, are the forecaster's "right-hand man."



A radar picture of the Aurora, NE tornado from June 2009. This is a common "zoomed" view of severe thunderstorm in AWIPS. Maps of roads, city boundaries and streams can be overlaid, including all the county roads in the NWS Hastings forecast area. The red line represents Interstate 80.

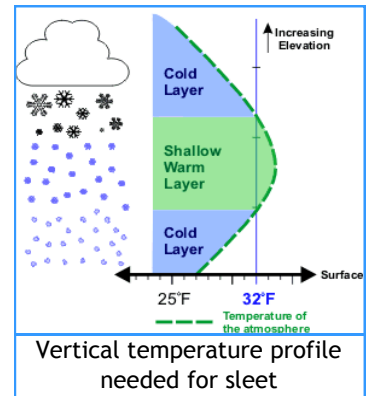
Rain, Snow, Sleet or Freezing Rain? What's it going to do? - Rick Ewald, SOO

One of the difficult tasks for a forecaster is trying to figure out what type of precipitation is going to occur in the winter. An important piece of the puzzle involves determining the temperature throughout the troposphere (basically the lower 7 - 8 miles of the atmosphere) where the temperature usually decreases with height. However there are times when the temperature actually increases with height in the lower troposphere and this can cause problems for the forecaster.

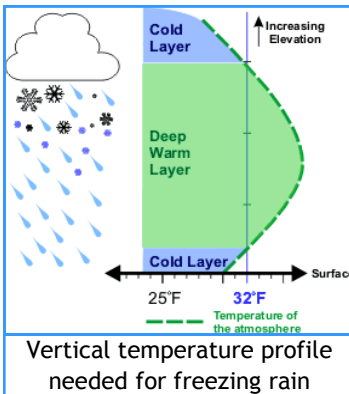


So how does the temperature affect the precipitation type? In general, ice crystals form at heights where the temperature is several degrees below freezing. As they fall the crystals grow by several means, eventually forming snowflakes. If the entire column of the atmosphere remains below freezing all the way to the ground, we get **snow** (left). However, what happens if the snowflakes encounter a warm layer in the atmosphere that is above freezing? If the layer is warm and/or deep enough, the snowflakes melt and we get rain.

Sleet process: If the warm layer is not quite as warm or as deep (let's say a degree or two above freezing for 500 feet) the snowflakes will partially melt, and then re-freeze as they encounter a cold layer closer to the ground. By the time they hit the ground they look like tiny frozen ice balls known as sleet (right).



Freezing rain process: This process is similar to sleet formation except that the warm layer completely melts the snowflakes into raindrops. But before reaching the ground, the rain falls through another cold layer. If the air temperature in this layer and at the ground is several degrees below freezing, the rain drops will instantaneously freeze wherever they land (on trees, sidewalks, roads, etc.), causing a potential hazardous situation known as freezing rain (left).



Forecasters use information from radiosondes (weather balloons) to determine, among other things, the temperature profile of the atmosphere. Due to cost factors, radiosondes are normally only launched twice per day at NWS sites across the country. In Nebraska, they are launched from the North Platte and Omaha offices. Due to the sparse coverage in both space and time, one can see where it might be tough to determine whether we will get snow in Minden, Nebraska, while those in Smith Center, Kansas may see a mixture of sleet, rain, and freezing rain.

It's been 5 years already?

December 29th will mark the 5-year anniversary of the start of one of the worst ice storms in this area's history. Freezing rain, sleet, and snow fell across west central Nebraska, with mixed precipitation spreading east to near Highway 281 overnight, and then transitioned to a prolonged period of sleet and freezing rain. The wintry mix of ice and sleet continued into the 30th, before ending the 31st. West central Nebraska saw mainly snow, with 9" accumulating in Dawson County. To the east, significant icing occurred, with widespread ice accumulations totaling 0.5 - 1", and even near 1.5" at some locations. There was widespread damage to trees, power lines and poles, causing numerous power outages. Several towns were running via generators, and it took weeks for power to be fully restored.



Cooperative Observer Hellos and Goodbyes

We have had a couple changes in observers this past summer. After many many years of reporting the weather for Ravenna, Bob Svanda decided to let someone else have the honor. Duane Muhlbach was quick to take up the challenge and will continue the temperature and precipitation climate database built by the Svanda family.

Kim Hausserman also volunteered to take over as cooperative observer from Julia Carlson at Franklin. Kim also reports temperatures and precipitation in addition to gathering data from the Fischer and Porter recording gauge.

Tim Wetterer is carrying on the river level duties handed down from his father, Bill. This is a responsibility carried out for over 30 years. Sadly, Bill passed away this past summer. He always had some of the best stories.

A big welcome to Duane, Kim, and Tim while we bid a fond farewell to Bob, Julia and Bill. Thank you all for your contributions to the National Weather Service Cooperative Weather Observer Program.

Employee Spotlight - General Forecaster Julia Berg



I was born and raised on a farm near Spirit Lake, Iowa, and graduated from Spirit Lake High School. My folks, Albert and Kathi Berg, still live in the area. I had one brother.

I attended Augustana College in Sioux Falls, South Dakota, and received a BA in Math and Geography. While attending Augustana, I started a part time, temporary position at the National Weather Service in Sioux Falls. After graduation, I was hired on full time as a Meteorological Technician. The NWS offered me an opportunity to take classes in Meteorology and I attended San Jose State University, taking 12 credits in 11 weeks. I crossed over and became a

Meteorologist. I moved to Aberdeen, South Dakota, with the NWS in 1998, and finally became a forecaster when I moved to Hastings, Nebraska, in 2003.

When I am not at work I enjoy spending time with my dog, walking for an hour every day. I also own four horses, three paint mares and a quarter horse gelding, which my parents take care of for now. Besides my “critters”, I also enjoy photography, spinning my own yarn, knitting and crocheting, and scrapbooking.

Crossword Puzzle Answers

Across

- 3 - sheltered
- 7- snow
- 9 - blizzard
- 10 - ice
- 11 - kit

Down

- 1 - windchill
- 2- sleet
- 4 - hypothermia
- 5 - frostbite
- 6 - freezing rain
- 8 - six

Ideas, Comments, or Suggestions?

Have a question about a particular topic or want to see something discussed in our newsletter? We would be happy to hear any comments from our readers. Either call the office at (402) 462-2127 or email us at w-gid.webmaster@noaa.gov and let us know what you would like to see in upcoming editions! The next newsletter will come out in Spring of 2012!

Thank you!

Cooperative Observer Awards - Marla Doxey, DAPM and Briona Saltzman. Met Intern

The National Weather Service is Hastings is proud to have such a wonderful group of people that are dedicated to the weather. This group is outstanding and continuously reliable! At this time that we would like to thank our amazing COOP observers for another fabulous year of weather reporting - Thank you so much and keep up the good work!! While we are glad to have so many new observers joining our team this year, we would love to recognize those who received length of service awards in the past few months.



Briona Saltzman with Duane Henk

Mr. Duane Henk from Central City, Nebraska has been reporting the rain and snowfall for 15 years since September of 1996. In his time he has measured over 400" of liquid precipitation with the wettest year being 2008 with 41.30". The driest year was 2000 when only 18.57" was measured. Duane has measured a total of 471" of snow. Duane also records the maximum and minimum temperatures every evening.



Tom Kjar with Marla Doxey

Also recording precipitation for 15 years, **Mr. Tom Kjar** of Cozad, Nebraska began in the coop program in April of 1996. Tom has measured over 374" of rainfall. The highest annual rainfall measured was 33.99" in 2008, and the lowest annual rainfall measured was 15.92" in 1998.

Although his son Tim has now taken over the Coop duties, **Mr. Bill Wetterer** of Cairo, Nebraska took river measurements for the Prairie Creek, which runs just south of his house and yard, for 30 years. He began these measurements in May of 1981. Whenever the creek was flooding or water levels were high, Bill was called upon to take the measurements. These readings helped the National Weather Service know exactly what the creek was doing, getting a better idea what was happening both up and downstream.

For 30 years, **Mr. Delmar Schoenfish** of Cambridge, Nebraska has taken river measurements on one of the few remaining chain gages. This gage consists of a horizontal scale and a chain that passes over a pulley and is attached to a hanging weight. This gage was installed back in the summer of 1948. While this is not a daily task, he is called upon to measure the river levels when flooding is an issue or is suspect. Delmar began river reporting in June of 1981. His wife Veronica, has been recording precipitation and temperatures for the COOP program since June of 2003.

Beginning in February 1976, the city of **Red Cloud** has recorded temperatures and precipitation. For 35 years since, numerous folks working for the city of Red Cloud has helped to take these measurements. Since this award is not for one specific person, it is called an **Institution Award**.

Mrs. Della Richmond of Natoma, Kansas has also been dedicated to the COOP program for 35 years. Della began reporting precipitation for the program in January of 1976. Throughout her time, she has recorded nearly 1,000" of liquid precipitation. This is enough to cover a 7-story building. The wettest year was 1993, the year of the Big Flood, when she measured 46.92".

Coop Awards continued...

Mr. James Applegate of Gibbon, Nebraska was presented with the **Dick Hagemeyer Award**. This award was established in honor of Richard (Dick) Hagemeyer (1924-2001), whose career with the National Weather Service spanned 51 years. Early in his career he served as a Cooperative Program Manager and was an ardent supporter of the Cooperative Observer Program. The award is given to National Weather Service Cooperative Weather Observers for 45 years of service.

For the past 45 years, James has been monitoring a Fischer & Porter Recording Rain Gauge. When he first took over, this gauge had a mechanized drum on which a paper chart and pen would make a trace of any precipitation that fell during the day. Since it was a weighing rain gauge, the precipitation would fall into a collection bucket on top. The more it rained, the heavier the bucket, which would then make a trace on the chart indicating how much it had rained or snowed. The pen assembly had a small divot at the end which held a couple drops of ink. While the charts were frequently changed, the gear mechanism which turned the drum would have to be wound periodically and the ink would need to be refilled. In 1976 the gauge was replaced with a newer version. This one had a paper tape feature with a punch block and battery. It punched holes in the tape every 15 minutes and was only changed once a month. James said this was not really an improvement as the paper tape did not work well during times of high humidity. There were times the battery died and you wouldn't know it till you checked the gauge. The installation of a solar panel in 1982 helped keep the batteries charged. Whenever the gauge had problems, James would notify the National Weather Service so it could be repaired quickly. In the fall of 2009, a totally new version of the recording device for the gauge was installed. This one took the place of the old paper tape and punching mechanism. It now has a digital readout and measures precipitation to the nearest hundredth of an inch instead of a tenth of an inch like the older version. The data is downloaded onto a SD card and mailed at the beginning of the new month.

Holm Award

On Wednesday, September 28th, the National Weather Service named Geneva, Nebraska weather observer **John Edgecombe Jr.** a 2011 recipient of the agency's prestigious John Campanius Holm Award for outstanding service to the Cooperative Weather Observer program. The award is only presented to 25 deserving cooperative weather observers from around the country each year.

In order to receive this award, an observer must be an outstanding cooperative weather observer for at least 20 years. An outstanding observer arranges for a backup observer to take the reports if they are gone and also makes the information available to local media sources. Not only are the weather reports important, but the observer must be involved in the local community as well.

Since August of 1978, John Edgecombe Jr. has reported temperature and precipitation data to the NWS office in Hastings. During those 33 years, John has not missed a single report, thanks to his network of family and friends who served as his backups. Over 12,000 observations were taken during this period. Even before John, weather observations for Geneva had been taken by the Edgecombe family since March of 1919. As a family, they have measured over 2,578" of liquid precipitation. John is already up to almost 1,000" during his 33 year period. This is a combination of rain and the water equivalent of the snow that has fallen. That much liquid would cover a 21-story building. Over 1,600" of snow have been measured, which would cover a 14-story building. The hottest temperature recorded was 118 degrees on July, 15, 1934, and the coldest reading was -26 degrees on December 22, 1989.



Steve Eddy, MIC, with John Edgecombe Jr.,
and Marla Doxey, DAPM

Are You Winter Weather Aware?

Even though winter has made its presence known across the Great Plains, it is never too late to focus attention to winter weather and the dangers it can pose to life and property. Each year, dozens of Americans die due to exposure to the cold. Account for vehicle accidents and fatalities, fires due to dangerous use of heaters and other winter weather fatalities, and you have a significant threat. Other hazards, such as hypothermia and frostbite, can lead to the loss of fingers and toes or cause permanent internal injuries and even death. The very young and the elderly are among those most vulnerable to the potentially harsh conditions. Recognizing the threats and knowing what to do when they occur could prevent the loss of extremities or save a life.

A winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall and cold temperatures. People can be trapped at home or in a car with no utilities or assistance, and those who attempt to walk for help could find themselves in a deadly situation. The aftermath of a winter storm can have an impact on a community or region for days, weeks, or possibly months.

Be Prepared Before the Storm Strikes!

When preparing your home or workplace for the upcoming winter season, keep in mind that the primary concerns deal with the loss of heat, power and telephone service, along with a shortage of supplies if a winter storm continues for an extended period of time.

Make sure to have the following supplies available:

- ◆ Flashlight and extra batteries
- ◆ Battery-powered NOAA Weather Radio and portable radio to receive emergency information - these may be your only links to the outside
- ◆ Extra food and water. Have high energy food, such as dried fruit, nuts and granola bars, and food which requires no cooking or refrigeration.
- ◆ Extra medicine and baby items
- ◆ First-aid supplies
- ◆ Heating fuel. Refuel BEFORE you are empty. Fuel carriers may not reach you for days after a winter storm.
- ◆ Emergency heat source: fireplace, wood stove, space heater
Use properly to prevent a fire, and remember to ventilate properly.

- ◆ Fire extinguisher and smoke alarm
Test smoke alarms once a month to ensure they work properly.

On the farm and for pets:

- ◆ Move animals into sheltered areas.
- ◆ Shelter belts, properly laid out and oriented, are better protection for cattle than confining shelters.
- ◆ Haul extra feed to nearby feeding areas.
- ◆ Have plenty of water available. Most animals die from dehydration in winter storms.
- ◆ Make sure your pets have plenty of food, water and shelter.



Are You Winter Weather Aware?

Along with your home and workplace, vehicles also need to be prepared for the winter season. It is very important to fully check and winterize your vehicle, which includes having a mechanic check your battery, antifreeze, wipers, windshield washer fluid, ignition system, thermostat, lights, exhaust system, heater, brakes, and oil levels. If you must travel during winter conditions, it is best not to travel alone. Try to plan your travel during the day, and make sure to let others know your destination, route, and when you expect to arrive. Make sure to keep your gas tank near full to avoid ice in the tank and fuel lines.

Always carry a Winter Storm Survival Kit in your car!!

- ◆ Mobile phone, charger and batteries
- ◆ Flashlight with extra batteries
- ◆ First-aid kit
- ◆ Knife
- ◆ Shovel
- ◆ Tool kit
- ◆ Tow rope
- ◆ Battery booster cables
- ◆ Compass and road maps
- ◆ A windshield scraper and brush or small broom for ice/snow removal
- ◆ Blankets and sleeping bags, or newspapers for insulation
- ◆ Rain gear, extra sets of dry clothes, socks, mittens, and stocking caps
- ◆ Large empty can to use as emergency toilet. Tissues, paper towels, and plastic bags for sanitary purposes
- ◆ Small can and waterproof matches to melt snow for drinking water
- ◆ Cards, games, and puzzles
- ◆ High calorie, non-perishable food, such as canned fruit, nuts, and high energy "munchies" (Include a non-electric can opener if necessary)
- ◆ A small sack of sand or cat litter for traction under wheels and a set of tire chains or traction mats.
- ◆ A brightly colored cloth to tie to the antenna



Do you know what to do if caught outside?

- ◆ Find shelter - or stay in your car!
- ◆ Stay dry and cover all exposed body parts
- ◆ If outside, build a fire if possible for heat and to attract attention
- ◆ Melt snow for drinking water, don't eat snow
- ◆ In your car, run the motor and turn on the dome light for about 10 minutes each hour for heat and to draw attention. Make sure the exhaust pipe is not blocked!
- ◆ Open the window for a little fresh air
- ◆ Exercise from time to time, to keep blood circulating and to keep warm



More information about preparing for winter weather and its dangers can be found at:

<http://www.weather.gov/gid/?n=winterweatherinformation2>

New Snowfall “Normals” For The 1981-2010 Period - Released By NCDC

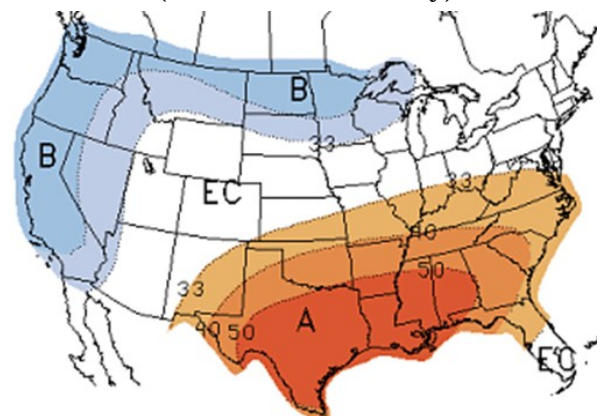
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	Normal Seasonal Snowfall
Grand Island	0.1”	1.0”	3.1”	5.2”	6.6”	6.1”	5.6”	1.3”	29.0”
Hastings	0.2”	1.0”	2.6”	6.1”	6.0”	6.5”	5.2”	1.2”	28.8”
Kearney	0.2”	0.7”	3.1”	3.5”	4.4”	5.1”	4.6”	1.8”	23.4”
Ord	0.0”	1.1”	5.3”	7.4”	6.8”	6.0”	5.9”	2.5”	35.0”
Holdrege	0.3”	0.7”	2.8”	4.8”	5.6”	5.6”	5.2”	1.9”	26.9”
Hebron	0.1”	0.2”	2.7”	5.2”	5.6”	5.5”	4.0”	0.7”	24.0”
Plainville KS	0.0”	0.4”	1.7”	3.7”	4.4”	4.2”	2.8”	1.1”	18.3”
Beloit KS	0.0”	0.2”	1.4”	5.4”	3.7”	3.5”	2.5”	0.7”	17.4”

Temperature Outlook for Winter 2011 (December-February)

The latest Winter Outlook from the Climate Prediction Center calls for equal chances for either above or below normal temperatures and precipitation amounts within South Central Nebraska and North Central Kansas.

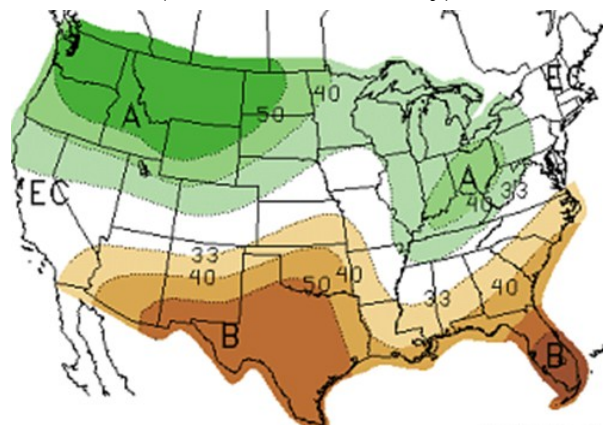
Time Frame: The NWS considers the “Winter” season to be all of December, January and February.

Temperature: These outlooks reflect averages for the 3-month period as a whole. We tend to view temperatures in a daily or monthly normal, but the 3-month outlook reflects the entire 90-day average temperature. **Red/Orange** colors represent “warmer” than normal. **Blue** colors represent “cooler” than normal. The white area labeled “EC” (including the local area) reflects places with “Equal Chances” of having above, near or below normal temperatures. This means there is no clear trend in the forecast analysis to support an outlook of anything other than “normal” for the period. In other words, confidence is too low in the forecast to favor any one of the three possibilities (above, below, or near normal) over the others.



Precipitation Outlook for Winter 2011 (December-February)

Precipitation: The precipitation outlook depicts the total precipitation potential for the entire 3-month period, and is also independent of individual days or months. **Green** colors represent “wetter” than normal and **brown** colors represent “drier” than normal. As with the temperature forecast, all of South Central Nebraska and North Central Kansas is outlooked to have “Equal Chances” of above, near or below normal precipitation.



To recap, the outlook for Winter (Dec-Jan-Feb) calls for no clear signal that precipitation and temperatures will be above or below normal.

Find more information about the Climate Prediction Center at <http://www.cpc.ncep.noaa.gov/>

National Weather Service

Weather Forecast Office
6365 Osborne Drive West
Hastings, NE 68901

Phone: 402-462-2127

Website: www.weather.gov/hastings

E-mail: w-gid.webmaster@noaa.gov



«First Name» «Last Name»

«Address Line 1»

«Address Line 2»

«City» «State» «ZIP Code»

Meet the Rest of the Staff at WFO Hastings

Meteorologist-In-Charge

Steve Eddy

Warning Coordination Meteorologist

Mike Moritz

Science and Operations Officer

Rick Ewald

Data Acquisition Program Manager

Marla Doxey

Electronic Systems Analyst

Mark Fairchild

Information Technology Officer

Carol Cartier

Administrative Assistant

Vic Schoenhals

Electronics Technicians

Mike Bergmann • Scott Gayer

Meteorological Interns / Hydrometeorological Technicians

Joe Guerrero • Briona Saltzman

Phil Beda • Mike Reed



Lead Forecasters

Cindy Fay • Merl Heinlein • Corey King

Shawn Rossi • Jeremy Wesely

General Forecasters

Julia Berg • Scott Bryant

Angela Oder • Ryan Pfannkuch